

August 2018

Event

Rock River Valley Section
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Sense

The Institute of Electrical and Electronic Engineers, Inc.

IEEE RRV Section, Electromagnetic Compatibility Chapter Meeting
SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN

WHEN Thursday, August 30, 2018

WHERE

Rock Valley College
Woodward Technology Center
Room: WTC1322
3301 North Mulford Road
Rockford, IL 61114

AGENDA

6:00 PM Networking
6:30 PM Dinner
7:15 PM Presentation



Electromagnetic Shielding Effectiveness for Aircraft Electronics

Steve Davidson

IEEE Rock River Valley Section EMC Chapter Chair

Electromagnetic shielding is one of the fundamental tools used to achieve electromagnetic compatibility (EMC) among various electrical equipment operating in close proximity to one another. Electromagnetic shielding is an important attribute of aircraft electronics where complex, sensitive electronic equipment must operate in close proximity to one another and not be adversely affected by each other or powerful radio and radar transmitters that are both in the aircraft and on the ground at airports. This is an introductory presentation on electromagnetic shielding. Topics presented include how equipment chassis serve as shielding closures, the concept of the Faraday Cage, electric field shields versus magnetic field shields, shielding for electromagnetic waves, the effects of necessary apertures such as vent holes and viewing windows in shields, the effects of joints and seams for access panels and covers in shields, the effects of wires penetrating shields, and shielding for wires that extend outside of shielded enclosures.

Steve Davidson was born and grew up in Rockford, IL. He earned a BSEE from the Illinois Institute of Technology, Chicago, IL (1973), a Master of Business Administration (MBA) from the University of Illinois, Urbana, IL (1975), and an MSEE from Ohio State University, Columbus, OH (1980) where he majored in electromagnetics and antenna theory. In 1975, he reported for active duty as an Air Force 2nd lieutenant assigned to the EMC Branch of the Aeronautical Systems Division (ASD) at Wright-Patterson Air Force Base (WPAFB) near Dayton, Ohio. After four years in the military, he transferred to U.S. Federal Civil Service and continued working as an EMC Engineer at WPAFB for another seven years. During these 11 years at Wright-Patt., he became an expert on electromagnetic interference (EMI) qualification testing of military aircraft, including immunity tests for lightning and High Intensity Radiated Fields (HIRF). Steve was responsible for the review and approval of contractor EMI qualification test procedures and reports for many military aircraft including the (then) top-secret B-2 Bomber. In 1986, he was hired by the Sundstrand Corporation in Rockford, IL. During his employment at Sundstrand, which became Hamilton Sundstrand in 1999, and later United Technologies Aerospace Systems (UTAS) in 2010, he was the lead EMC engineer for electric power generation systems on seven commercial and military aircraft, including the Comanche Helicopter, the Embraer ERJ-170, the Boeing 787, and the Bombardier CSeries Regional Jet. He was promoted to UTAS EMC Fellow in 2011. Steve retired from UTAS in September 2017. Mr. Davidson became an IEEE Senior Member in 1981 and an IEEE Life Senior Member in 2016. He is a licensed Professional Engineer (P.E.) and a Certified EMC Engineer of the International Association for Radio Telecommunication & EMC Engineers (INARTE).

MEAL INFORMATION

Dinner entrée will feature your choice of Vegetarian or Non-Vegetarian meals.

Members & Student Members: FREE,
Non-members: \$10,
Student non-members: \$5
Presentation only: FREE

Please register online at

<https://events.vtools.ieee.org/m/176326>

or by emailing Diane Sennebogen at diane.brock@utas.utc.com by Thursday, Aug 30 at 1 pm. Please include the following: name, phone number, email address, and IEEE member number. The meeting is open to the general public.

IEEE RRV Section, Elections
SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN

2019 RRVS Executive Committee Election Results

Position	Candidate
Chair	Rakesh Vasudevan
Vice Chair	Terry Johnson
Secretary	Patrick Conner
Treasurer	Adrian Vandergrift
PELS Chapter Chair	Mark Harris
EMC Chapter Chair EMC Chapter Co-Chair	Jamal Shafii Steve Davidson
IAS Chapter Chair	Joe Etminan
Computer/Controls Chapter Chair	Alkesh Patel
Life Member Chair	Larry Wachowiak
Young Professionals Chair	Eduardo Vasquez
WIE Chair	Marjan Shirani

IEEE Rock River Valley Section 2018 Calendar of Events

January 22: IEEE Chicago/Rockford Consultants' Network Meeting

January 25: RRVVS Section Meeting

February 22: RRVVS Section Meeting, Engineer's Week

February 24: [Discover Engineering at Discovery Center Museum](#)

March 29: RRVVS Section Meeting

April 20 NIU Student Branch Networking Social at Northern Illinois University

April 26: RRVVS Section Meeting,

May 31: RRVVS Section Meeting with Chicago-Rockford Consultants' Network

June 12: EMC Seminar.

June 28: RRVVS Section Meeting, Annual Picnic and Officer Elections at Hamilton Sundstrand Park

August 30: RRVVS Section Meeting

September 27: RRVVS Section Meeting

October 25: RRVVS Section Meeting

November 15: RRVVS Section Meeting at NIU

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Missed a meeting? Check out our Google Drive for previous presentations.

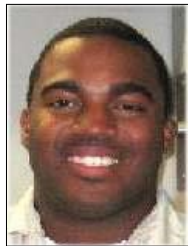
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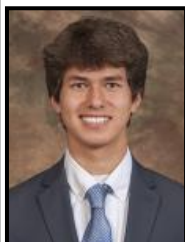


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RRVS Calendar

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Rock River Valley Section Chapters

Industry Applications Society Chapter
Established 1992

Joint Computer/Control Systems Society Chapter
Established 1995

Power Electronics Society Chapter
Established 1996

Electromagnetic Compatibility Society Chapter
Established 2007

The Rock River Valley Section gratefully acknowledges the following companies and colleges for supporting Section Officers:

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